

Supplementary Table ST1: Model genomes used in the phylogenomic analysis. Asterisk denotes genome assemblies which have been available via GenBank for at least 1 year without formal publication.

Taxon	Data source	Reference
<i>Agaricus bisporus</i> var. <i>bisporus</i> H97	JGI/DOE	(Morin et al. 2012)
<i>Agaricus bisporus</i> var. <i>burnettii</i> JB137 S8	JGI/DOE	(Morin et al. 2012)
<i>Ajellomyces capsulatus</i> NAm1	NCBI	(Sharpton et al. 2009)
<i>Ajellomyces dermatitidis</i> SLH14081	NCBI	*
<i>Arthrotrys oligospora</i> ATCC 24927	NCBI	(Yang et al. 2011)
<i>Arthroderma benhamiae</i> CBS 112371	NCBI	*
<i>Arthroderma otae</i> CBS 113480	NCBI	(Martinez et al. 2012)
<i>Ashbya gossypii</i> ATCC 10895	NCBI	(Dietrich et al. 2004)
<i>Aspergillus clavatus</i> NRRL 1	NCBI	(Fedorova et al. 2008)
<i>Aspergillus flavus</i> NRRL3357	Ensembl	(Mabey Gilsenan et al. 2012)
<i>Aspergillus fumigatus</i> A1163	Ensembl	(Fedorova et al. 2008; Mabey Gilsenan et al. 2012)
<i>Aspergillus fumigatus</i> Af293	Ensembl	(Nierman et al. 2005)
<i>Aspergillus kawachii</i> IFO 4308	NCBI	(Futagami et al. 2011)
<i>Aspergillus nidulans</i> FGSC A4	Ensembl	(Galagan et al. 2005; Wortman et al. 2009)
<i>Aspergillus niger</i> ATCC 1015	NCBI	(Andersen et al. 2011)
<i>Aspergillus niger</i> CBS 513.88	NCBI	(Pel et al. 2007)
<i>Aspergillus oryzae</i> RIB40	Ensembl	(Machida et al. 2005)
<i>Aspergillus terreus</i> NIH2624	Ensembl	(Mabey Gilsenan et al. 2012)
<i>Auricularia delicata</i> TFB 10046 SS5	NCBI	(Floudas et al. 2012)
<i>Batrachochytrium dendrobatidis</i> JAM81	NCBI	*
<i>Baudoinia compniacensis</i> UAMH 10762	JGI/DOE	(Ohm et al. 2012)
<i>Beauveria bassiana</i> ARSEF 2860	NCBI	(Xiao et al. 2012)
<i>Bipolaris maydis</i> ATCC 48331	JGI/DOE	(Ohm et al. 2012)
<i>Bipolaris maydis</i> C5	JGI/DOE	(Ohm et al. 2012)
<i>Bipolaris sorokiniana</i> ND90Pr	JGI/DOE	(Ohm et al. 2012)
<i>Blumeria graminis</i> f sp <i>hordei</i> DH14	BluGen	(Spanu et al. 2010)
<i>Botrytis cinerea</i> B05.10	NCBI	(Amselem et al. 2011)
<i>Caenorhabditis elegans</i>	NCBI	(C. elegans Sequencing Consortium 1998)

<i>Candida albicans</i> WO 1	NCBI	(Butler et al. 2009)
<i>Candida dubliniensis</i> CD36	NCBI	(Jackson et al. 2009)
<i>Candida glabrata</i> CBS 138	NCBI	(Dujon et al. 2004)
<i>Candida tenuis</i> ATCC 10573	NCBI	(Wohlbach et al. 2011)
<i>Candida tropicalis</i> MYA 3404	NCBI	(Butler et al. 2009)
<i>Ceriporiopsis subvermispora</i> B	JGI/DOE	(Fernandez-Fueyo et al. 2012)
<i>Chaetomium globosum</i> CBS 148.51	NCBI	*
<i>Chaetomium thermophilum</i> var. <i>thermophilum</i> DSM 1495	NCBI	(Amlacher et al. 2011)
<i>Clavispora lusitaniae</i> ATCC 42720	NCBI	(Butler et al. 2009)
<i>Coccidioides immitis</i> RS	NCBI	(Sharpton et al. 2009)
<i>Coccidioides posadasii</i> C735 delta SOWgp	NCBI	(Sharpton et al. 2009)
<i>Coccidioides posadasii</i> str. Silveira	NCBI	(Sharpton et al. 2009)
<i>Colletotrichum graminicola</i> M1.001	NCBI	(O'Connell et al. 2012)
<i>Colletotrichum higginsianum</i>	NCBI	(O'Connell et al. 2012)
<i>Coniophora puteana</i> RWD 64 598 SS2	NCBI	(Floudas et al. 2012)
<i>Coprinopsis cinerea</i> okayama7 130	NCBI	(Stajich et al. 2010)
<i>Cordyceps militaris</i> CM01	NCBI	(Zheng et al. 2011)
<i>Cryptococcus gattii</i> WM276	NCBI	(D'Souza et al. 2011)
<i>Cryptococcus neoformans</i> var. <i>neoformans</i> B 3501A	NCBI	*
<i>Cryptococcus neoformans</i> var. <i>neoformans</i> JEC21	NCBI	(Loftus et al. 2005)
<i>Dacryopinax</i> sp. DJM 731 SS1	NCBI	(Floudas et al. 2012)
<i>Debaryomyces hansenii</i> CBS767	NCBI	(Dujon et al. 2004)
<i>Dekkera bruxellensis</i> AWRI1499	NCBI	(Curtin et al. 2012)
<i>Dichomitus squalens</i> LYAD 421 SS1	NCBI	(Floudas et al. 2012)
<i>Dothistroma septosporum</i> NZE10	JGI/DOE	(Ohm et al. 2012)
<i>Eremothecium cymbalariae</i> DBVPG 7215	NCBI	(Wendland and Walther 2011)
<i>Exophiala dermatitidis</i> NIH/UT8656	NCBI	*
<i>Fomitiporia mediterranea</i> MF3/22	NCBI	(Floudas et al. 2012)
<i>Fusarium graminearum</i> PH 1	Ensembl	(Cuomo et al. 2007)
<i>Fusarium oxysporum</i> f. sp. <i>lycopersici</i> 4287	Ensembl	(Ma et al. 2010)
<i>Fusarium oxysporum</i> Fo5176	NCBI	(Thatcher et al. 2012)
<i>Fusarium pseudograminearum</i> CS3096	NCBI	(Gardiner et al. 2012)

<i>Fusarium verticillioides</i> 7600	Ensembl	(Ma et al. 2010)
<i>Gaeumannomyces graminis var. tritici</i> R3 111a 1	Fungi/Ensembl	*1
<i>Glarea lozoyensis</i> 74030	NCBI	(Youssar et al. 2012)
<i>Grossmannia clavigera</i> kw1407	NCBI	(DiGuistini et al. 2011)
<i>Hysterium pulicare</i> CBS 123377	JGI/DOE	(Ohm et al. 2012)
<i>Kazachstania africana</i> CBS 2517	NCBI	(Gordon et al. 2011)
<i>Kluyveromyces lactis</i> NRRL Y 1140	NCBI	(Dujon et al. 2004)
<i>Komagataella pastoris</i> GS115	NCBI	(De Schutter et al. 2009)
<i>Laccaria bicolor</i> S238N H82	NCBI	(Martin et al. 2008)
<i>Lachancea thermotolerans</i> CBS 6340	NCBI	(Génolevures Consortium et al. 2009)
<i>Leptosphaeria maculans</i> JN3	NCBI	(Rouxel et al. 2011)
<i>Lodderomyces elongisporus</i> NRRL YB 4239	NCBI	(Butler et al. 2009)
<i>Magnaporthe oryzae</i>	Ensembl	(Dean et al. 2005)
<i>Magnaporthiopsis poae</i> ATCC 64411	Ensembl	*1
<i>Malassezia globosa</i> CBS 7966	NCBI	(Xu et al. 2007)
<i>Marssonina brunnea f. sp. 'multigermtubi'</i> MB m1	NCBI	(Zhu et al. 2012)
<i>Melampsora laricis-populina</i> 98AG31	NCBI	(Duplessis et al. 2011)
<i>Metarhizium acridum</i> CQMa 102	NCBI	(Gao et al. 2011)
<i>Metarhizium robertsii</i> ARSEF 23	NCBI	(Gao et al. 2011)
<i>Meyerozyma guilliermondii</i> ATCC 6260	NCBI	(Butler et al. 2009)
<i>Microsporium gypseum</i> CBS 118893	NCBI	(Martinez et al. 2012)
<i>Mixia osmundae</i> IAM 14324	NCBI	(Nishida et al. 2011)
<i>Moniliophthora perniciosa</i> FA553	NCBI	(Mondego et al. 2008)
<i>Myceliophthora thermophila</i> ATCC 42464	NCBI	(Berka et al. 2011)
<i>Naumovozya castellii</i> CBS 4309	NCBI	(Gordon et al. 2011)
<i>Naumovozya dairenensis</i> CBS 421	NCBI	(Gordon et al. 2011)
<i>Nectria haematococca</i> mpVI 77 13 4	Ensembl	(Coleman et al. 2009)
<i>Neosartorya fischeri</i> NRRL 181	NCBI	(Fedorova et al. 2008)
<i>Neurospora crassa</i> OR74A	NCBI	(Galagan et al. 2003)
<i>Neurospora tetrasperma</i> FGSC 2508	NCBI	(Ellison et al. 2011)
<i>Ogataea parapolyomorpha</i> DL 1	NCBI	(Ramezani-Rad et al. 2003)
<i>Paracoccidioides brasiliensis</i> Pb18	NCBI	(Desjardins et al. 2011)
<i>Paracoccidioides sp. 'lutzii'</i> Pb01	NCBI	(Desjardins et al. 2011)

<i>Passalora fulva</i> CBS 131901	JGI/DOE	(Ohm et al. 2012)
<i>Penicillium rubens</i> Wisconsin 54 1255	NCBI	(Nierman et al. 2005)
<i>Phaeosphaeria nodorum</i> SN15	NCBI	(Hane et al. 2007)
<i>Phanerochaete carnosae</i> HHB 10118 sp	JGI/DOE	(Fernandez-Fueyo et al. 2012)
<i>Piriformospora indica</i> DSM 11827	NCBI	(Zuccaro et al. 2011)
<i>Podospora anserina</i> S mat+	NCBI	(Paoletti and Saupe 2008)
<i>Postia placenta</i> Mad 698 R	NCBI	(Martinez et al. 2009)
<i>Pseudocercospora fijiensis</i> CIRAD86	JGI/DOE	(Ohm et al. 2012)
<i>Puccinia graminis f. sp. tritici</i> CRL 75 36 700 3	NCBI	(Duplessis et al. 2011)
<i>Puccinia triticina</i> 1 1 BBBB Race 1	Ensembl	(Duplessis et al. 2011)
<i>Punctularia strigosozonata</i> HHB 11173 SS5	NCBI	(Floudas et al. 2012)
<i>Pyrenophora teres f. teres</i> 0 1	NCBI	(Ellwood et al. 2010)
<i>Pyrenophora tritici-repentis</i> Pt-1C-BFP	NCBI	*
<i>Rhizopus delemar</i> RA 99 880	NCBI	(Ma et al. 2009)
<i>Rhodotorula glutinis</i> ATCC 204091	NCBI	*
<i>Rhynchostroma rufulum</i> CBS 306 38	JGI/DOE	(Ohm et al. 2012)
<i>Saccharomyces cerevisiae</i> S288c	NCBI	(Goffeau et al. 1996)
<i>Scheffersomyces stipitidis</i> CBS 6054	NCBI	(Jeffries et al. 2007)
<i>Schizophyllum commune</i> H4 8	NCBI	(Ohm et al. 2010)
<i>Schizosaccharomyces japonicus</i> yFS275	NCBI	(Rhind et al. 2011)
<i>Schizosaccharomyces pombe</i> 972h	NCBI	(Wood et al. 2002)
<i>Sclerotinia sclerotiorum</i> 1980 UF 70	NCBI	(Amselem et al. 2011)
<i>Serpula lacrymans</i> var. <i>lacrymans</i> S7.3	NCBI	(Eastwood et al. 2011)
<i>Serpula lacrymans</i> var. <i>lacrymans</i> S7.9	NCBI	(Eastwood et al. 2011)
<i>Setosphaeria turcica</i> Et28A	JGI/DOE	(Ohm et al. 2012)
<i>Sordaria macrospora</i> k hell	NCBI	(Nowrousian et al. 2010)
<i>Spathaspora passalidarum</i> NRRL Y 27907	NCBI	(Wohlbach et al. 2011)
<i>Sphaerulina musiva</i> SO2202	JGI/DOE	(Ohm et al. 2012)
<i>Sphaerulina populicola</i> P02.02b	JGI/DOE	(Ohm et al. 2012)
<i>Sporisorium reilianum</i> SRZ2	NCBI	(Schirawski et al. 2010)
<i>Stereum hirsutum</i> FP 91666 SS1	NCBI	(Floudas et al. 2012)
<i>Talaromyces marneffeii</i> ATCC 18224	NCBI	*
<i>Talaromyces stipitatus</i> ATCC 10500	NCBI	*
<i>Tetrapisispora blattae</i> CBS 6284	NCBI	(Gordon et al. 2011)
<i>Tetrapisispora phaffii</i> CBS 4417	NCBI	(Gordon et al. 2011)

<i>Thielavia terrestris</i> NRRL 8126	NCBI	(Berka et al. 2011)
<i>Torulaspora delbrueckii</i>	NCBI	(Gordon et al. 2011)
<i>Trametes versicolor</i> FP 101664 SS1	NCBI	(Floudas et al. 2012)
<i>Tremella mesenterica</i> DSM 1558	NCBI	(Floudas et al. 2012)
<i>Trichoderma atroviride</i> IMI 206040	NCBI	(Kubicek et al. 2011)
<i>Trichoderma reesei</i> QM6a	NCBI	(Martinez et al. 2008)
<i>Trichoderma virens</i> Gv29 8	NCBI	(Kubicek et al. 2011)
<i>Trichophyton rubrum</i> CBS 118892	NCBI	(Martinez et al. 2012)
<i>Trichophyton tonsurans</i> CBS 112818	NCBI	(Martinez et al. 2012)
<i>Trichophyton verrucosum</i> HKI 0517	NCBI	(Martinez et al. 2012)
<i>Trichosporon asahii</i> var. <i>asahii</i> CBS 8904	NCBI	(Yang et al. 2012)
<i>Tuber melanosporum</i> Mel28	NCBI	(Martin et al. 2010)
<i>Uncinocarpus reesii</i> 1704	NCBI	(Sharpton et al. 2009)
<i>Ustilago hordei</i>	NCBI	(Laurie et al. 2012)
<i>Ustilago maydis</i> 521	NCBI	(Kämper et al. 2006)
<i>Vanderwaltozyma polyspora</i> DSM 70294	NCBI	(Scannell et al. 2007)
<i>Verticillium alfalfae</i> VaMs.102	NCBI	(Klosterman et al. 2011)
<i>Verticillium dahliae</i> VdLs.17	NCBI	(Klosterman et al. 2011)
<i>Wallemia sebi</i> CBS 633.66	NCBI	(Padamsee et al. 2012)
<i>Yarrowia lipolytica</i> CLIB122	NCBI	(Dujon et al. 2004)
<i>Zygosaccharomyces rouxii</i> CBS 732	NCBI	(Génolevures Consortium et al. 2009)
<i>Zymoseptoria tritici</i> IPO323	NCBI	(Goodwin et al. 2011)

1 - *Magnaporthe* Comparative Sequencing Project, Broad Institute of Harvard and MIT (<http://www.broadinstitute.org/>),

* - Draft genome available on NCBI/RefSeq or Ensembl/Fungi, for a period over 12 months, without traceable genome announcement publication.

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